Previous references.

G.R. **File No.** 283-10

1911.

Serial Nos. 1–24

(Genl. Misc.)

Later references.

GENERAL AND REVENUE SECRETARIAT.

Serial Nos. 1 — 24

Part B. for December 1911.

SUBJECT.

Invention of Edward Evans for 'improvements in & relating to Zeolites or hydrated alumino silicates'.

Contents

1. From Messrs. Edward Evans & Co., London Letter dt 12-5-11.
   Forwards application of Edward Evans for leave to file a specification of the above mentioned Invention.
2. To the Asst Treasury Officer Bangalore No. G-7235 dt 13-6-11.
   Forwards Rs-10/- being the application fee received with the above.
3. To the Supdt of Stamps No. 7231 dt 13-6-11.
   Forwards the Power-of-Attorney and Re-1/- requests that the former may be returned impressed with a general stamp of the value of Re-1/
4. To the State Geologist No. G. 7231 dt 13-6-11.
   Forwards for report the application received with dt. 1

G. R. S. 58

5.

K.N. Krishnaswamy Gr

5. From the Supdt of Stamps No. 206 & Returned duly stamped the Power of Attorney forwarded with C.S.

6. From the Treasury Office Bangalore No. 71/422 & 14.6.11 Acknowledges receipt of the amount sent in the C.S.

7. From the State Geologist No. 2533 & 24.6.11. Forwards the report called for in C.S.

8. From the Supdt of Stamps No. G. 22 & 3.7.11. Acknowledges receipt of the Power of Attorney returned with C.S.

9. To Messrs Edward Evans & Co. London No. G. 23 & 3 7/11 With ref to C.S above (& of 1 of Sm 284-10) states that the fee for the Power of attorney in each case is only Re 1/- and that Messrs Coutts & Co., London will be instructed to refund to them on application the sum of Rs. 8/- being the extra amount received from them;

10 To the Comptroller No. G. 24 & 3-7-11. Forwards a copy of the above.

11. From the ~~State Geologist~~ To Messrs. William Edward Evans, London. No. G. 308 & 14.7.11. Authorizes him to file a Spec.n

11 To Messrs. Edward Evans & Co., London No. 309 & 14 7/11 Forwards Copy of the above for Communication to the applicant.

12. From the Comptroller. No. B&R/1 & 5.7.11. Intimates issue of instructions to Messrs. Coutts & Co. to refund Rs. 8/- to Messrs Edward Evans & Co.

13. From Messrs Edward Evans & Co. No. 8 & 24.7.11 Acknowledge receipt of C.S and await receipt of order granting leave.

14. From Messrs Edward Evans & Co. Letter & 29.5.11 Forwards Rs. 30/- and 6 Copies of the Spec.n for being filed.

15. To the Comptroller Mysore Gazette No. G. 2945 & 18-11-11 Notifies filing of the Spec.n

16. To Messrs Edward Evans & Co. No. G. 2946 & 18-11-11 Forwards Copy of the above &c

17.

G.R.S.11] 1910 - 11

GENERAL AND REVENUE SECRETARIAT

Reg' no 16 of 1910-11. (Genl. misc.)

NOTES.

File No. 283.

FILE HEADING.

Inventn of William Edward Evans ~~in respect of his invention~~ for Improvements in & relating to Effects in hydrated alumino silicates'

From

Messrs Edward Evans & Co London

No. 5. Dated 12. 5. 1911. Received 29. 5. 1911.

Diary No. 5034.	Enclos. 3	Spare Copies	Serial No. 1

BRIEF ABSTRACT OF LETTER.

Forwards the applⁿ of Edward Evans for leave to file a Specification of his inventn with Power of Attorney &c -

NOTES AND ORDERS.

Submitted with the usual Affts: But a fee of Rs 5 has been received for Power of Attorney whereas only one Re 1 is due in the case of a single transaction. If, in the other hand, the several steps to be taken to obtain a Patent & keep it in force be considered as more than one transaction

Work rec'd 5/6/11

GPB—30,000—3-4-07.

G. R. S. 12]
General and Revenue Secretariat.

G. h. File No. 25 of 1910-11.

Serial No.	
5034	the fee due will then be Rs 5. Orders are therefore solicited as to whether the entire sum may be accepted or whether Rs 4 only Rs 5 may be retd. Vs (12-) hm 6.6.11 S/6/11. I think it has always been the practice to treat the whole matter as one transaction and Charge one Rupee only as fees for Power of Attorneys. I don't believe we have recovered 5 Rs for this purpose ~~in any case~~. So, only one Re need be retained and the balance Rs 4/- retd Drafts appd for issue. 8/6
2	To D.C. Hy Deptt, Bangalore. No. Cs 7239 dy 13.6.11. 8/6/11 Forwards Rs 10/- being the applr fee recd with the above request acknowledgment.
3	To the Supdt of Stamps. No. Cs 7239 dy 13-6-11. Forwards the Power-of-Attorney & Re 1/- and requests that the Power may be returned stamped with the General stamp of the value of Re 1/-
4	To the State Geologist. No. Cs 7239 dy 13.6.11. Forwards for report the applr recd with Rl.
5	From the Supdt of Stamps. No. 206 Returns duly stamped the Powers of Attorney forwarded with Rl 3 and G.M. 1514.10.11.

NOTE—Contn. sheet.

GPB—50,000—12-8-10

G.R.S. 12]
General and Revenue Secretariat.

G. h. File No. 283 of 1910 - 11.

Serial No.	
6.	From the Officer in charge Bangalore Distt. Jy. No 71/422. dy 14-6-11 Acknowledges receipt of the sums of Rs 10 sent with rl. 2.
	Receipt of Drafts acknowledging Powers of attorney & noting the excess sum of Rs 8 are sent for applt.
	13 (125) 26-6-11 Secy May be approved. hm 20/6/11
	Issue
7.	Vide below 9
8.	To the Supdt of Stamps, Rc G. 228 dy 3.7.11 — Acknowledges receipt of the Powers of attorney returned with rl 5.
9.	To Messrs Edward Evans & Co, London, Rc G. 23 dy 3.7.11 — With refce to rl 1 (& to rl 1 of G. N. 284 dy) states that the fee for Power of Attorney is only Re 1/ in each case & that Messrs Coutts & Co. will be instructed to refund them on application the excess of Rs 8/ received from them.
—	To Comptroller, Rc G. 24 dy 3.7.11 — Forwards Copy of the above with the request that necessary instructions may be issued to Messrs Coutts & Co. for the refund of Rs 8/ (Forwarded herewith) to Messrs Edward Evans & Co.
7	From the State Geologist No 2555 dy 24.6.1911. With refce to rl. 4. opines that the Specification &c

This cover to be filed with the enclosed file also by

5246
5268

NOTE—Contn. sheet.

GPB—55,000—27.4.09

Serial No.

to be allright & recommends the grant of leave

Draft subd. for approval or other orders.

bs (125)
4-7-11 bms.

Appd
5.7.11

10 To Mr. Wm. Edward Evans Consulting Engineer, 27, Chancery Lane, London, W.C. - No. G 308 dt 14.7.11

Authorizing him to file a specifn.

11 To Messrs Edward Evans & Co, London. No. G 309 dt 14.7.11

Forwards copy of the above for comm^n to the applicant.

12. From the Comptr. no BHR/1 dt 5.7.1911. Intimates issue of instructions to Messrs Cuttle &c. to refund Rs 8 to Messrs Edward Evans &c.

Subd. for information. (It seems unnecessary to communicate this to Messrs Edward Evans &c. who have already been informed of the refund in N 9).

bs
18.7.11 bms.8.

Seen. Not necessary
BN
14.7.11

13 From Messrs Edward Evans &c. no D dt 24.7.1911

Acknowledge receipt of N 9 awaits receipt of order granting leave

Subd. for perusal. Further comm^n from the applicants with ref^ce to N 11 may be awaited

bs (125) bms.8
28.8.11

yes.
BN
28.8.11

NOTE—Contn. sheet.

GPB—55,0-10—27-4-09

(5)

G. R. S. 12]
General and Revenue Secretariat.

Gen File No. 283 of 1910-11

Serial No.	
1713	14 From Messrs Edward Evans & Co, London dt 29. 9. 11 Forwards Rs 30/- and 6 copies of the specification for filing the specification This application has been made within 6 months from the date on which the order to file the specification was passed, and is therefore in time. The usual drafts are submitted. The certificate at the foot of the Order has to be signed. Gen (99) 31.10.11 VS. 41 Issued 2.11.11.
	15. To the Compiler, Mysore Gazette, No C. 2945 dt 18.11.11. Rotifies the filing of the specification refd to above.
	16. To Messrs Edward Evans & Co, London, No C. 2946 dt 18.11.11 — Fds a copy of the above Notification returns the order granting permission duly signed
	17. To D.C. Bangalore, Irg Deptt, No C. 2947 dt 18.11.11 — Forwards Rs 30/- received vide Cl 14 & requests an acknowledgment
	18. To the Asstt Govt Museum, Chief Engineer & State Geologist, No C. 2948-50 dt 18.11.11 — Fds for record, a copy of the specification refd to & requests an acknowledgment
SW	19 From the State Geologist. No 972 dt 22.11.11. Acknowledges the receipt of the specification forwarded with the above

P.T.O

NOTE — Contn. sheet.

GPB—50,000—12-8-10

G. R. S. 12]
General and Revenue Secretariat.

Gen File No. 283 of 1910–11

Serial No.	
20	From the Dt Frs Off No 89 Dd 21. 11. 11 Acknowledges the receipt of Rs 30/- forwarded with Sl 17. Acknowledgments from the Museum Supdt and the Chief Engineer may be awaited. Subd 24 99 27.11.11 US. 41 28/11/11.
21	From the Supdt, Govt Museum. No. 72 Dd 24. 11. 11 Acknowledges the receipt of the Specifn forwarded with Sl 18
22	From the Chief Engineer. No. 11111 Dd 1. 12. 11 Returns the Specifn forwarded with Sl 18 and suggests that the same may be forwarded to the Chemical Examiner as it may be of use to him. It has been usual to send a copy of the Specifn to the Chief Engineer. See 11 cl 2 of the Mysore Inventions and Designs Regn XI of 1894, which requires the Applicant to supply at least 4 copies of the specification, & clearly states that "one of the copies shall be retained by the Chief Secretary and the others shall be sent to such authorities as the Govt of Mysore may appoint in this behalf". Subd for orders. 24 99 5.12.11 US. 41 The Chief Engr's suggestion may be adopted 7.12.11. Draft subd 24 99 14.12.11 US. 41 Issue Sd 14/12/11.

2829
2370

Sus

NOTE—Contn. sheet.

GPB—50,000—12-8-10

G. R. S. 12]
General and Revenue Secretariat.

G. R. File No. 283 of 1910-11. (7

2545

Serial No.	
23	To The Chemical Examiner,
	No. 6345-8 dt 18-12-11 Encl 1.
	Forwarding a copy of the specification and requesting acknowledgement.
24	From the same. No. 775 dt 18. 12. 11.
	Acknowledges the receipt of the specification forwarded with the above.
	The correspondence may now be recorded.

Subdl VS. 41
21-12-11

Yes
21.12.11.

Rec'd

NOTE—Contn. sheet.

GPB—50,000—12-8-10

G. M. 283-10-1

D 5034

(1)

Edward Evans & Co.
Consulting Engineers and
Chartered Patent Agents.

ARBITRATORS AND EXPERTS IN PATENT CASES.
FELLOWS OF THE CHARTERED INSTITUTE OF PATENT AGENTS.
ENROLLED PATENT ATTORNEYS OF THE UNITED STATES.

Telephone No. 4916 Holborn.
Telegraphic & Cable Address } Effugium, London.
A.B.C. & A.1. Codes used.

AND AT BIRMINGHAM AND BRISTOL.

S. 27, Chancery Lane,
London, W.C.

May 12th 1911.

To the Secretary of the Government of
H.M. the Maharaja of Mysore,
General and Revenue Department,
Bangalore,
Mysore.

Sir,

re Application for Patent in the name of William Edward Evans in respect to the invention entitled "Improvements in and relating to zeolites or hydrated alumino silicates".

Herewith we beg to forward Power of Attorney, application in duplicate for filing on application in the above name together with Money Order value 15 Rupees being 10 Rupees for the filing fee, and 5 Rupees for the stamp on the Power of Attorney.

We respectfully request that the certificate of filing may be sent to the above address and leave to file the Complete specification duly granted.

Very respectfully,

Edward Evans & Co.

Case (2) 1

APPLICATION

To

The DEWAN of MYSORE.

The Application of William Edward Evans, Consulting Engineer, of 27, Chancery Lane, London, W.C., England, for leave to file a Specification under Part I of The Inventions and Designs Regulation 1894.

1. The applicant is in possession of an invention for "Improvements in and relating to zeolites or hydrated alumino silicates"; he is the inventor thereof, and to the best of his information and belief, the invention is new within the meaning of Part I of The Inventions and Designs Act of 1894; and no circumstance exists which, if the applicant be authorized to file a Specification and files it in accordance with that Part, will disentitle him to an Exclusive Privilege thereunder in respect of the Invention; for which application for Letters Patent has been made in the United Kingdom No. 3871 dated the 15th day of February 1911. See Illustrated Official Journal (patents) No. 1153 page 224.

2. The following is a description of the invention.

(3)

(Case 1).

This invention relates to a process for the production of hydrated alumino-silicates or artificial zeolites more especially for use in the softening of water, but of general application for all purposes to which zeolites can be applied.

The object of the invention is to produce zeolites for industrial use, of a hard granular structure, and capable of hydration in hot water.

A further object of the invention is to utilise in manufacture as little alkali as possible, and to render the process expeditious and inexpensive.

According to the invention such zeolites are produced by a process of fusion, at a high temperature, of silicic acid (quartz), alumina and alkali, in the proportion approximately corresponding to the formula:—4 Molecules SiO_2, 1 Molecule $Al_2 O_3$, and 4 to 5 Molecules Na_2O.

According to the invention, moreover a part of the soda is replaced by potash either in the form of potassium carbonate or of a mineral containing potassium.

The molten product is withdrawn from the furnace in which fusion is effected and then cooled and crushed. It is then leached or hydrated with hot water. The zeolites that remain behind on

leaching or hydration do not assume a plastic condition, but have a hard, granular structure, and do not fall to pieces in use. These characteristics of the ultimate product are an indication that the process of fusion has been properly carried out.

The intermediate product obtained according to the present process must not be treated with cold water as otherwise soft and small zeolites are produced. This product must be leached or hydrated for conversion into zeolites, by treatment with hot water. advantageously at from 90-100°C., for from 2 to 3 hours.

As examples among the many possible compositions, approximately corresponding to the molecular proportion hereinbefore specified (which are so numerous because potassium silicates, such as potash felspar, leucite, nepheline, phenolite and the like can be used instead of quartz), are the following:—

(No. 1). 2.0 parts by weight of kaolin.

4.5 parts by weight of potash felspar.

8.2 parts by weight of sodium carbonate.

These proportions correspond to the molecular composition: 4 Molecules SiO_2, 1 Molecule Al_2O_3, 5.5 Molecules Na_2O.

The melt must be leached or extracted with hot water, by which zeolitic silicates are obtained as hard, large, opal-like grains, which approximately possess the molecular composition:—

2 to 3 Molecules SiO_2, 1 Molecule Al_2O_3, 1 Molecule $(KNa)_2O$, 6 Molecules H_2O.

(No. 2.) 2.0 parts by weight of kaolin.
3.5 parts by weight of leucite.
1.0 parts by weight of quartz.
8.2 parts by weight of sodium carbonate, or
7.6 parts by weight of soda.
0.8 parts by weight of potash.

This melt has the same molecular composition as the melt No. 1, and yields also the same zeolites.

It will be understood that naturally still smaller quantities of soda may be used in the melt, with about the same reduction in the quantity of silicic acid, or that also slightly larger quantities of soda and quartz, or minerals rich in quartz still permit of the treatment of the melt obtained, with hot water at from 90-100°C.

Instead of silicic acid, boracic acid, nitric acid, sulphuric acid or other inorganic acids or their salts may be used, and particularly boracic acid and its salts, but silicic acid has been found preferable.

(5)

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:-

1. A new product of manufacture consisting of hydrated alumino-silicates or artificial zeolites of a hard granular structure, insoluble in hot water, substantially as described.

2. A process for the production of hydrated alumino-silicates or artificial zeolites, consisting in melting together alumina, alkali and silicic acid or their equivalents, in such proportions as to enable their resulting product to have a hard granular structure and to be hydrated with hot water, substantially as described.

3. In a process for the production of hydrated alumino-silicates or artificial zeolites by melting together alumina, alkali and silicic acid or their equivalents in determined proportions, the use in the melt of potash or a potassium compound, substantially as described.

(6)

3. The applicant, therefore, applies for leave to file a Specification of the invention pursuant to Part I of the Mysore Inventions and Designs Regulation 1894.

Dated this 12th day of May 1911.

W. E. Evans

.....

I William Edward Evans, the applicant above named do declare that what is stated in this Application is true to my knowledge, except as to matters stated on information and belief, and as to those matters I believe them to be true.

W. E. Evans

.....

G.R.S. 29A] X

190 (7)

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

The Dy. Comm^r.

Dated Inv Dept^t

Despatched 13. 6. 11 Bangalore

Received

General No. G 7239

Genl No. 283-10-2

Enclosure No. Rs Inwardly

Has the honr to forward herewith a sum of Rs 10 being the appl^n fee in respect of an invention for "Improvements in treating to Zeolytes &c" by Wm Edward Evans and to request the favour of an acknt

&c.

8/6/11

for Secy to Govt

Hon

G.R.S. 29A]

190

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

The Supdt of Stamps.

Dated

Despatched 13. 6. 11

Received

General No. G7236

Genl No. 283-10-3

Enclosure No. 1 and Rept/ons

Has the honor to forward herewith a Power of Attorney constituting Messrs Edward Evans & Co. as agents for Wm. Edward Evans in respect of his invention for "Improvements relating to Zeolites &c." & to request that it may be stamped with a general stamp of the value of Rs One. & returned to this Office. Amount of Rs One is herewith forwarded.

Blank to be filled up.

MGCPB--20,000--16-2-05

3115 G.R.S. 29A]

190

5034. 9/6

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

? The State Geologist

Dated

Despatched 13. 6. 11

Received

General No. G7237
Genl No. 283-10-4

Enclosure No. /

Has the honor to forward herewith for favour of enquiry and report under Part I of the Mysore Inventions & Designs Regln XIV of 1894 the applcn of Mr Edward Evans, London. for leave to file a specification of his invention for "Improvements in & relating to Geolistic"

Asst Secy
8/6/11

MGCPB--20,000--16-2-05

V
15½

Office of the Superintendent
D 5246 of Stamps in Mysore
C
Bangalore 14 June 11

No: 206

(10)

G.H. 283-10-5

From

V. Krishnasami Rao Esq. B.A.

Superintendent of Stamps
in Mysore.

To

C.S. Balasundram Iyer Esq. B.A.,
Offg Secretary to the Govt of Mysore
General and Revenue Depts:

Sir

With reference to your docket Nos.
G.7231 and 7234 dated the 13th instant
Gen. 284-10-4
Respectfully, I have the honor to return herewith duly impressed with a Rupee Stamp each, the two Powers of attorney received with the above, and to request the favor of an acknowledgment.

I have the honor to be
Sir
Your most obedient Servant

V. Krishnasami Rao

Superintendent of Stamps
in Mysore.

a/ps.

D/Rm

Case 1

(11)

V
29/5

POWER OF ATTORNEY

IN THE MATTER of The Inventions and Designs Regulation XI of 1894, of the Government of Mysore:

and

IN THE MATTER of William Edward Evans Consulting Engineer, of 27, Chancery Lane, London, W.C., England, an Inventor.

I, the above named William Edward Evans, do hereby retain, constitute and appoint Messrs. Edward Evans & Co., of 27 Chancery Lane, London, W.C., England, as my Agents and Attorneys to apply for and obtain from the Government of Mysore an Exclusive Privilege for "Improvements in and relating to zeolites or hydrated alumino silicates" and to maintain the same in force; and I authorize them to sign my name to such papers and writings and do such acts regarding the same, including substitution and revocation, as may be necessary or expedient. And lastly, I request that all notices, requisitions and communications now or hereafter relating to the same may be sent to such Agents at the above address, and that they be recognized as my authorized Agents in all proceedings incident thereto.

Dated this 12th day of May 1911.

Signed, sealed and delivered by the above named William Edward Evans at 27 Chancery Lane, London, W.C. England, in the presence of) W. E. Evans.

H. V. Baker

R. O. Hughes

G.M. 283-10-6 (12)

Rs 10/— Book No. 1012 No 71422

Bangalore Treasury dated 14-6-1911 D 52688

V 1616 Received from Secretary to Govt of India

Rupees Ten only —

Annas — and Pies —

being on account of Application fee in respect of invention in "improvements in and relating to Torpedoes" by William Edward Evans

H. V. Ramaswami

In charge of Treasury.

Bangalore

M.G.D. 13] MYSORE GEOLOGICAL DEPARTMENT.

Dated Bangalore, 24- June *191* 1.

(13)

No. 2555/Enc. 1 D 5399/9 Gn. 283-10-7

From

E. W. WETHERELL, Esq., A.R.C.S., F.R.P.S.L., F.G.S.,
Offg. State Geologist in Mysore.

To

C.S. Balasundaram Iyer, Esquire, B.A.,
Offg.Secretary to the Government of His Highness
the Maharaja of Mysore,Gen.& Rev.Depts.

Sir,

In reply to your docket No.7232, dated 13th June 1911, I have the honour to inform you that the specification referred to therein appears to me to be all right and in order and that the permission sought for to file the same may be granted. The Specification is herewith returned.

I have the honour to be,
Sir,
Your most obedient servant,

E W Wetherell

C.N. Offg. State Geologist in Mysore.

GPB—480—4-1-11

Case 1

(17)

Regd No 10 07-1910 11

APPLICATION

To

The DEWAN of MYSORE.

The Application of William Edward Evans, Consulting Engineer, of 27, Chancery Lane, London, W.C., England, for leave to file a Specification under Part I of The Inventions and Designs Regulation 1894.

1. The applicant is in possession of an invention for "Improvements in and relating to zeolites or hydrated alumino silicates"; he is the inventor thereof, and to the best of his information and belief, the invention is new within the meaning of Part I of The Inventions and Designs Act of 1894; and no circumstance exists which, if the applicant be authorized to file a Specification and files it in accordance with that Part, will disentitle him to an Exclusive Privilege thereunder in respect of the invention; for which application for Letters Patent has been made in the United Kingdom No. 3871 dated the 15th day of February 1911. See Illustrated Official Journal (Patents) No. 1153 page 224.

2. The following is a description of the invention.

(15)

(Case 1).

This invention relates to a process for the production of hydrated alumino-silicates or artificial zeolites more especially for use in the softening of water, but of general application for all purposes to which zeolites can be applied.

The object of the invention is to produce zeolites for industrial use, of a hard granular structure, and capable of hydration in hot water.

A further object of the invention is to utilise in manufacture as little alkali as possible, and to render the process expeditious and inexpensive.

According to the invention such zeolites are produced by a process of fusion, at a high temperature, of silicic acid (quartz), alumina and alkali, in the proportion approximately corresponding to the formula:—4 Molecules SiO_2, 1 Molecule Al_2O_3, and 4 to 5 Molecules Na_2O.

According to the invention, moreover a part of the soda is replaced by potash either in the form of potassium carbonate or of a mineral containing potassium.

The molten product is withdrawn from the furnace in which fusion is effected and then cooled and crushed. It is then leached or hydrated with hot water. The zeolites that remain behind on

leaching or hydration do not assume a plastic condition, but have a hard, granular structure, and do not fall to pieces in use. These characteristics of the ultimate product are an indication that the process of fusion has been properly carried out.

The intermediate product obtained according to the present process must not be treated with cold water as otherwise soft and small zeolites are produced. This product must be leached or hydrated for conversion into zeolites, by treatment with hot water. advantageously at from 90-100°C., for from 2 to 3 hours.

As examples among the many possible compositions, approximately corresponding to the molecular proportion hereinbefore specified (which are so numerous because potassium silicates, such as potash felspar, leucite, nepheline, phenolite and the like can be used instead of quartz), are the following:—

(No. 1). 2.0 parts by weight of kaolin.

4.5 parts by weight of potash felspar.

8.2 parts by weight of sodium carbonate.

These proportions correspond to the molecular composition: 4 Molecules SiO_2, 1 Molecule Al_2O_3, 5.5 Molecules Na_2O.

The melt must be leached or extracted with hot water, by which zeolitic silicates are obtained as hard, large, opal-like grains, which approximately possess the molecular composition:—

2 to 3 Molecules SiO_2, 1 Molecule Al_2O_3, 1 Molecule $(KNa)_2O$, 6 Molecules H_2O.

(No. 2.) 2.0 parts by weight of kaolin.
3.5 parts by weight of leucite.
1.0 parts by weight of quartz.
8.2 parts by weight of sodium carbonate, or
7.6 parts by weight of soda.
0.8 parts by weight of potash.

This melt has the same molecular composition as the melt No. 1, and yields also the same zeolites.

It will be understood that naturally still smaller quantities of soda may be used in the melt, with about the same reduction in the quantity of silicic acid, or that also slightly larger quantities of soda and quartz, or minerals rich in quartz still permit of the treatment of the melt obtained, with hot water at from 90-100°C.

Instead of silicic acid, boracic acid, nitric acid, sulphuric acid or other inorganic acids or their salts may be used, and particularly boracic acid and its salts, but silicic acid has been found preferable.

(17)

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:-

1. A new product of manufacture consisting of hydrated alumino-silicates or artificial zeolites of a hard granular structure, insoluble in hot water, substantially as described.

2. A process for the production of hydrated alumino-silicates or artificial zeolites, consisting in melting together alumina, alkali and silicic acid or their equivalents, in such proportions as to enable their resulting product to have a hard granular structure and to be hydrated with hot water, substantially as described.

3. In a process for the production of hydrated alumino-silicates or artificial zeolites by melting together alumina, alkali and silicic acid or their equivalents in determined proportions, the use in the melt of potash or a potassium compound, substantially as described.

(18)

3. The applicant, therefore, applies for leave to file a Specification of the invention pursuant to Part I of the Mysore Inventions and Designs Regulation 1894.

Dated this 12th day of May. 1911.

W. E. Evans

.....

I, William Edward Evans, the applicant above named do declare that what is stated in this Application is true to my knowledge, except as to matters stated on information and belief, and as to those matters I believe them to be true.

W. E. Evans

.....

G.R.S. 29A]

19 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Supdt of Stamps.

Dated

Despatched 3.7.1911

Received

General No. G 22

No. Con 283-10-8

Enclosure No.

Have the honor to acknowledge the receipt of the Powers of Attorney returned with his letter no 206 of 14.6.1911.

Bgs.

for Secy to Govt

GPB—20,000—24-10-10.

Money & Cover refd

3-7-11

Lo B √ G.R.S. 26]

WLS

Gen (20)

File No. 283-6

Serial No. 9

5888/10/11

Diary No. of letter replied to

No. G 23

General and Revenue Secretariat

( )

, *the* 19 .

To

Messrs Edward Evans & Co

27 Chancery Lane,

London.

Date of issue 3.7.11

Signed by Mr B Ramaswamy

Gentlemen,

With refce to your letter nos 5-6 BL/D of 12.5.1911 forwarding the applns of Mr. Edward Evans for leave to file specifications of his invention for "Improvements in & relating to Zeolits" and "Improvements in and relating to the softening of water", I am directed

over.

SUBJECT.

P.T.O

LHS 11/7/11

to state that the fee for Power of attorney is only Re one which sum has accordingly been utilised in each case, ~~The excess of Rs 8 received from you is therefore~~ in each case.

~~action.~~ Messrs Coutts and Co London will be instructed to refund to you the excess of Rs 8 (on application) received from you.

Thanking you.

Yours faithfully

for Coutts & Co

[illegible]

[illegible] 23.7.10/11

Copy of the above is forwarded to the Comptr with the request that needful instructions may be issued to Messrs Coutts & Co for the refund of Rs 8 to Messrs Edward Swaine & Co. The sum of Rs 8 is herewith forwarded.

Yours faithfully

for Coutts & Co

List of enclosures,

Copied by

Examined by

GPB—20,000—25-9-10

ak

5393/47 2W5

No G 308

Sm 283-10-10

GOVERNMENT OF MYSORE

General Department.

Register No. 10 **of 1910-11.**

Bangalore, the 14th June 1911.

WHEREAS an application, dated the 12th day of May 1911 and received on the 29th day May 1911, has been submitted under Section 5 of the Mysore Inventions and Designs Regulation, 1894, by William Edward Evans, Consulting Engineer of 27, Chancery Lane London W.C.

(hereinafter referred to as "the applicant") for leave to file a specification of an invention for "Improvements in and relating to Zeolite or hydrated alumino silicates."

And whereas the applicant has duly complied with all the requirements of Section 5 of the said Regulation;

The Government of Mysore are pleased, under Section 6 of the said Regulation, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Regulation.

ORDERED, that the applicant be, and he is hereby, informed accordingly.

By Order of the Government of Mysore,

Draft

5.7.11

Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

Certified that the fees prescribed in the fourth schedule to the Mysore Inventions and Designs Regulation, 1894, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of Section 8 of the said Regulation on this the thirty first day of October 1911.

Draft

2.11.11.

Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

VS. 41

(*Section* 8 *of the Inventions and Designs Regulation*, 1894.)

8. (1) If within six months from the date of an order under Section 6, Sub-Section (1), or within such further time, not exceeding three months, as the Government of Mysore, in its discretion, may, on cause shown to its satisfaction and on payment of the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applicant causes a specification of his invention to be filed in manner by this Part required, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in the Territories of Mysore, and of authorizing others so to do, for a term of fourteen years from the date of the filing of the specification.

(2) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in Sub-Section (1), cease, if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege.

(3) If, nevertheless, in any case, by accident, mistake, or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Government of Mysore for an enlargement of the time for making the payment.

(4) Thereupon the Government of Mysore may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule, and subject to the following conditions, namely:—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

GPB—150—30-7-06

G.R.S. 26

File No. 283-10

Serial No. 11

5997/47

Diary No. of letter replied to

No. G 309 Encl

General and Revenue Secretariat

( )

, *the* 19 .

To

Messrs Edward Evans & Co.

27. Chancery Lane, London W.C.

Date of issue 14. 7. 11

Gentlemen.

Signed by Mr Brennan's amanuensis

With refce to your letter no S. 4 12. 5. 1911, I am directed to forward herewith for communication to the applicant an order granting leave to Mr Wm Edward Evans to file a specification of his invention for "Improvements in & relating to Zeolites &c.".

I have &c.

5.7.11

for Secy

SUBJECT.

(W.)

Budget and Resource Department.

OFFICE OF THE COMPTROLLER TO THE GOVERNMENT OF H. H. THE MAHARAJA OF MYSORE.

No. M. B. & R. 1

Bangalore, dated 5 July 1911.

To

The Secretary to the Govt of H.H. the Maharaja of Mysore Jl & Rev depts

Sir,

With reference to your letter No. J.24 3 M.283-10, dated 3 July 1911 I have the honour to intimate that Messrs. Coutts & Co., London, have in ~~my~~ this office letter No. 6, dated 5 July 1911, been instructed to pay to the party named below the sum of £. 0—10—8 on application on account of Refund of excess money received from Messrs Edward Evans & Co in regard to his application for leave to file specifications of his inventions for improvements relating to zeolites & to the softening of water.

and that the equivalent of the Sterling payment at 1s. 4d. the Rupee, namely Rs. 8 will be adjusted in the accounts on receipt of intimation of payment from the Bankers.

Messrs Edward Evans & Co
27. Chancery Lane
London

I have the honor to be,
Sir,
Your most obedient servant,

N.B The sum of Rs 8/- received with the letter has ~~been~~ been sent to the Dy for credit to Remittances

Assistant Comptroller.

GPB—15 books of 100 pages each—13-7-10

DIARY No. 812 G

1911-1912

SECTION G.M

FILE No. 283-10

SERIAL No. 13.

Edward Evans & Co.
Consulting Engineers and
Chartered Patent Agents.

ARBITRATORS AND EXPERTS IN PATENT CASES.
FELLOWS OF THE CHARTERED INSTITUTE OF PATENT AGENTS.
ENROLLED PATENT ATTORNEYS OF THE UNITED STATES.

Telephone No. 4916 Holborn.
Telegraphic & Cable Address: Effugium, London.
A.B.C. & A.1. Codes used.

AND AT BIRMINGHAM AND BRISTOL.

D. 27, Chancery Lane, London, W.C.

July 24th 1911.

Officiating Secretary to the Government of
H.H. the Maharaja of Mysore,
General and Revenue Departments,
Bangalore,
Mysore.

Sir,

re Application for Patent in the name of William Edward Evans in respect to the invention entitled "Improvements in and relating to zeolites or hydrated alumino silicates."

We beg to acknowledge your letter No. G 23 G.m.283-10-9 dated 3rd July 1911 and note therefrom.-

1. That Messrs. Coutts and Co., of London, are instructed to refund to us on application the excess of Rs. 8/- received from us. We will accordingly apply to them and secure this.

2. We in due course await notification of the grant of the application.

Very respectfully,
Edward Evans & Co.

DIARY No. 1713

311-1912
SECTION Gen: Mis
FILE No. 283 of 1910-11
SERIAL No. 14

Edward Evans & Co
Consulting Engineers and
Chartered Patent Agents.

ARBITRATORS AND EXPERTS IN PATENT CASES.
FELLOWS OF THE CHARTERED INSTITUTE OF PATENT AGENTS.
ENROLLED PATENT ATTORNEYS OF THE UNITED STATES.

Telephone No. 4916 Holborn.
Telegraphic & Cable Address } Effugium London.
A.B.C. & A.1. Codes used.
AND AT BIRMINGHAM AND BRISTOL.

BL/D

27, Chancery Lane,
London, W.C.

Sept. 29th 1911.

C.S. Balasundaram Iyer, Esq., B.A.,
Officiating Secretary to the Government
of H.H. the Maharaja of Mysore,
General and Revenue Departments,
Bangalore,
Mysore.

Sir,

re Mysore Application No. 10/10-11. "Improvements in and relating to zeolites or hydrated alumino silicates". William Edward Evans.

Herewith we beg to return parchment together with six copies of the specification and respectfully request that the parchment may be duly returned to us.

We also forward herewith by Money Order 30 Rupees being the filing fee herein and respectfully request that the official certificate may be sent to us in due course.

Very respectfully,

N.° 10
1910-11

(27)

S P E C I F I C A T I O N.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, William Edward Evans, of 27 Chancery Lane, London, W.C. England, Consulting Engineer, am in possession of an invention registered as No. 10 1910-11, for "Improvements in and relating to zeolites or hydrated alumino silicates", and I, the said William Edward Evans do hereby declare the nature of my said invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, thereof, that is to say:-

(98)

This invention relates to a process for the production of hydrated alumino-silicates or artificial zeolites more especially for use in the softening of water, but of general application for all purposes to which zeolites can be applied.

The object of the invention is to produce zeolites for industrial use, of a hard granular structure, and capable of hydration in hot water.

A further object of the invention is to utilise in manufacture as little alkali as possible, and to render the process expeditious and inexpensive.

According to the invention such zeolites are produced by a process of fusion, at a high temperature, of silicic acid (quartz) alumina and alkali in the proportion approximately corresponding to the formula:-

4 Molecules SiO_2, 1 Molecule Al_2O_3, and 4 to 5 Molecules Na_2O.

According to the invention moreover, a part of the soda is replaced by potash either in the form of potassium carbonate or of a mineral containing potassium.

The molten product is withdrawn from the furnace in which fusion is effected and then cooled

and crushed . It is then leached or hydrated with hot water. The zeolites that remain behind on leaching or hydration do not assume a plastic condition, but have a hard, granular structure, and do not fall to pieces in use. These characteristics of the ultimate product are an indication that the process of fusion has been properly carried out.

The intermediate product obtained according to the present process must not be treated with cold water as otherwise soft and small zeolites are produced. This product must be leached or hydrated for conversion into zeolites, by treatment with hot water, advantageously at from 90-100 °C., for from 2 to 3 hours.

As examples among the many possible compositions approximately corresponding to the molecular proportion hereinbefore specified (which are so numerous because potassium silicates, such as potash felspar, leucite, nepheline, phenolite and the like can be used instead of quartz) are the following:-

No. 1. 2.0 parts by weight of kaolin.
4.5 " " " " potash felspar.
8.2 " " " " sodium carbonate.

These proportions correspond to the mole-

cular compositions:-

4 Molecules SiO_2, 1 Molecule Al_2O_3, 5.5 Molecules Na_2O.

The melt must be leached or extracted with hot water, by which zeolitici silicates are obtained as hard, large opal-like grains, which approximately possess the molecular composition:-

2 to 3 Molecules SiO_2, 1 Molecule Al_2O_3, 1 Molecule $(KNa)_2O$, 6 Molecules H_2O.

No. 2. 2.0 parts by weight of kaolin.

3.5 " " " " leucite.

1.0 " " " " quartz.

8.2 " " " " sodium carbonate or

7.6 parts by weight of soda.

0.8 " " " " potash.

This melt has the same molecular composition as the melt No. 1, and yields also the same zeolites.

It will be understood that naturally still smaller quantities of soda may be used in the melt, with about the same reduction in the quantity of silicic acid, or that also slightly larger quantities of soda and quartz, or minerals rich in quartz still permit of the treatment of the melt obtained, with hot water at from 90-100 °C.

Instead of silicic acid, boracic acid, nitric acid, sulphuric acid or other inorganic acids or their salts may be used, and particularly boracic acid and its salts, but silicic acid has been found preferable.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:-

1. A new product of manufacture consisting of hydrated alumino-silicates or artificial zeolites of a hard granular structure, insoluble in hot water, substantially as described.

2. A process for the production of hydrated alumino-silicates or artificial zeolites, consisting in melting together alumina, alkali and silicic acid or their equivalents, in such proportions as to enable their resulting product to have a hard granular structure and to be hydrated with hot water, substantially as described.

3. In a process for the production of hydrated alumino silicates or artificial zeolites by melting together alumina, alkali and silicic acid or their equivalents in determined proportions, the use in the melt of potash or a potassium compound, substantially as described.

DATED this 29th day of September 1911.

.....

No. 10
1910-11

37

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, William Edward Evans, of 27 Chancery Lane, London, W.C. England, Consulting Engineer, am in possession of an invention registered as No. 10 1910-11 for "Improvements in and relating to zeolites or hydrated alumino silicates", and I, the said William Edward Evans do hereby declare the nature of my said invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, thereof, that is to say:-

This invention relates to a process for the production of improved alumino-silicates of artificial zeolites more especially for use in the softening of water, but of general application for all purposes to which zeolites can be applied.

The object of the invention is to provide zeolites for industrial use, of a hard granular structure and capable of hydration in hot water.

A further object of the invention is to obtain in zeolites in quantities an initial activity possible and to render the process economical and inexpensive.

According to the invention such zeolites are produced by a process of fusion, at a high temperature, of silicic acid (quartz), alumina and alkali, in the proportion approximately corresponding to the formula :- 4 Molecules SiO_2, 1 Molecule Al_2O_3, and 1 to 3 Molecules Na_2O.

According to the invention, sodium or a part of the soda is replaced by potash either in the form of potassium carbonate or of a mineral containing potassium.

The sodium peroxide is mixed with the charge in which case the charge is charged and then cooled. If in this manner or by external cooling the sodium does not exceed a certain temperature, but keeps a hard, granular structure, and do not fail to pieces in use. These characteristics of the sodium product are an indication that the process of fusion has been properly carried out.

The intermediate product obtained according to the present process can be treated with cold water or diluted acid and cold solutions are produced. This product can be leached or hydrated for conversion into solution, by treatment with hot water, advantageously at from 60-80° C. For each 10 g of sodium

(35)

In certain cases, the many possible combinations, corresponding to the multiple proportions according to which one element combines with another (which are as follows: hydrogen, oxygen, nitrogen, chlorine and the like are to most suitable of course), are the following :-

(No. 2). 2.0 parts by weight of [illegible].

4.5 parts by weight of [illegible].

0.0 parts by weight of [illegible].

These proportions correspond to the molecular composition :- [illegible] : [illegible], [illegible].

The acid used is [illegible] of [illegible] with [illegible], by which [illegible] [illegible] [illegible], [illegible], [illegible], which subsequently produce the [illegible] in the [illegible] :-

[illegible] , [illegible] , [illegible] , [illegible] .

(No. 3). [illegible] parts by [illegible] of [illegible].

3.5 parts by [illegible] of [illegible].

[illegible] parts by [illegible] parts

0.8 parts by weight of sodium carbonate
or,

7.6 parts by weight of zinc.

0.6 parts by weight of potash.

This metal has the same composition
as that used in Ex. 3, and should
also be used annealed.

In this Example the proportion of zinc may be varied to suit circumstances, while the proportion of the other constituents may be varied, or it may be entirely dispensed with, as in the following Example, or the proportion of the carbonate of soda may be increased to 10 parts.

Instead of using sodium carbonate, potassium carbonate, caustic soda, caustic potash, ammonium carbonate or any other [illegible] may be used with [illegible] 2 parts [illegible] acid and [illegible], [illegible] acid [illegible] be used.

(37)

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is :-

1. A new product of crystalline consisting of hydrated alumino-silicates of artificial zeolites of a hard granular structure, insoluble in hot water, substantially as described.

2. A process for the production of hydrated alumino-silicates or artificial zeolites, consisting in melting together alumina, alkali and silicic acid or their equivalents, in such proportions as to enable their resulting product to have a hard granular structure and to be hydrated with out of water, substantially as described.

3. In a process for the production of hydrated alumino-silicates or artificial zeolites by melting together alumina, alkali and silicic acid or their equivalents in determined proportions, the use in the melt of potash or a potassium compound, substantially as described.

Dated this 29th day of September 1911

4 Apls 2 Copies (35)

17.12.11

MYSORE GOVT. GEN. & REV. SECRETARIAT,

No. G 2945 *Dated Bangalore,* 18-11-1911.

G.M. 283-10-15

ab

NOTIFICATION.

(PATENT.)

The following specification of an invention has been filed in accordance with Sections 8, 9, 10 and 11 of Regulation XI of 1894 (The Inventions and Designs Regulations) and is open to inspection at the Mysore Government Secretariat on application to the Secretary to the Government of His Highness the Maharaja of Mysore, General and Revenue Departments, and on payment of a fee of one Rupee.

By William Edward Evans, Consulting Engineer of 27 Chancery Lane, London, W.C.

"Improvements in and relating to Zeolites or Hydrated Alumino Silicates"

By Order,

dpl) 2.11.11.

for dfs Secretary.

To

The Compiler, *Mysore Gazette*, for publication VS. 4/

4 Dft.

No. 1713/11
G 2946
G. M. 283-10-16 En. 2

MYSORE GOVT. GEN. & REV. SECRETARIAT,

Dated Bangalore, 18 - 11 - 1911.

From

The Secretary to the Government of H. H. the Maharaja of Mysore,
General and Revenue Departments.

To

Messrs Edward. Evans & Co
Chartered Patent Agents,
27, Chancery Lane,
London, W.C

Gentlemen
~~Sir,~~

With reference to your letter dated the 29th September 1911 I am directed to forward copy of a Notification No. G 2945 G. M. 283-10-15 dated 18 - 11 - 11 issued by this Government in regard to the invention filed by you under Regulation XI of 1894 (The Inventions and Designs Regulations.)

The order granting permission to file specification is herewith returned, with the certificate at foot, duly filled in and signed.

I have the honor to be,
~~Sir~~, Gentlemen,
Your most obedient servant,

dft) 2.11.11
for ~~dft~~ *Secretary.*

VS. 41

Summary & cover upon

21-11-11

1713/11

G.R.S. 29A]

4 Dgs

(4)

19

From

The offg **Secy. to the Govt. of His Highness**
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Deputy Commr.,
Treasury Deptt
Bangalore DC

Dated

Despatched 18th Nov. 1911

Received

General No. G. 2947

No. G. M. 28 3-10-17

Enclosure No. Rs 30/-

Has the honor to forward herewith for credit in the Treasury a sum of Rs 30/-, being the fee received from Messrs Edward Evans & Co, London, towards filing the specification of an invention for "Improvements in and relating to Zeolites or Hydrated alumino Silicates" by William Edward Evans, Consulting Engineer of 27, Chancery Lane, London, W.C., and to request the favor of an acknowledgment.

By order,

GPB—20,000—24-10-10.

2.11.11.

for offg Secretary

US. 41

2158

2.11.11

4005

G.R.S. 29A] (4) 365

19 .

From

The Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To the
(1) Supdt, Govt Museum.
(2) Chief Engineer of Mysore.
& (3) State Geologist in Mysore.

Dated

Despatched 18-11-11

Received

General No. G 2948-50

G.R. No. 283-10-18

Enclosure No.

Has the honor to forward herewith for record in his office a copy of the specification in respect of an inventive for "Improvements in and relating to Zeolites or Hydrated alumino silicates" by William Edward Evans, Consulting Engineer of 27 Chancery Lane, London, W.C., and to request the favor of an acknowledgment.

By order,

2.11.11.

for the Secretary

GPB—20,000—21-10-10

M.G.D. 13]

MYSORE GEOLOGICAL DEPARTMENT.

Dated Bangalore, 22nd November *1911*.

No: 972

From

DIARY No. 2229

1911 -1912

SECTION Gen: Mis

FILE No. 2830-1910-11

SERIAL No. 19

E. W. WETHERELL, Esq., A.R.C.S., F.R.P.S.L., F.G.S.,

Offg. State Geologist in Mysore.

To

C.S. Balasundaram Iyer, Esquire, B.A.,

Offg.Secretary to the Government of His Highness

the Maharaja of Mysore,Gen.& Rev.Depts.

Sir,

I have the honour to acknowledge the receipt of a copy of the specification in respect of an invention for "Improvements in and relating to Zeolites or Hydrated alumino Silicates", forwarded with your docket No.G.2948-50/G.M. 283-10-18, dated 18th November 1911 for record in this office.

I have the honour to be,

Sir,

Your most obedient servant,

C.N.

Offg.State Geologist in Mysore.

(43)

DIARY No. 2192/9

1911-1912

SECTION-Gen & Mis

FILE No. 283 of 1910-11

SER[illegible] No. 20

Rs 30-0-0 V 2/11/911 Book No. 1013 No 89 8-9

Bangalore Dist Treasury dated 21st November 1911.

Received from The Secretary Lft & Rev: Dept

Rupees Thirty only.

Annas — and Pies — being on account of

fee recd from Messrs Edward Evans & Co: for filing the Specification of an invention for "Improvements in and relating to Zeolites or Hydrated alumino Silicates"

V. Lis No: G. 2947/Gen 283-10-1)
8 18. Nov. 911.

In charge of Treasury.
Bangalore District

No. 72

OFFICE OF THE ECONOMIC BOTANIST,
SUPERINTENDENT, MYSORE GOVERNMENT MUSEUM,
Bangalore, dated 24 November 1911.

DIARY No. 2370

FROM

G. H. KRUMBIEGEL, ESQ., F.R.H.S.,
Economic Botanist,
Superintendent, Mysore Govt. Museum,
Bangalore.

1911-1912
SECTION Gen-Mis
FILE No. 283 of 1910-11
SERIAL No. 21

To

C. S. Balasundram Iyer Esq.,
Offg. Secretary to the Govt. of H. H.
the Maharaja of Mysore,
Genl. and Rev. Depttts.

Sir,

I have the honor to acknowledge the receipt of a copy of the Specification of an invention for "Improvements in and relating to Zeolites or Hydrated alumino Silicates" by William Edward Evans, London forwarded with your No. G. 2948-50 / G. H. 283-10/9 dated the 18th instant.

I have the honor to be,
Sir,
Your most obedt. Servant

G. H. Krumbiegel
Economic Botanist,
Supdt., M. G. Museum,
Bangalore

V GA
4/12 dr

19 //

From

G. H. KRUMBIEGEL, Esq., F.R.H.S.,
Economic Botanist,
Supt., Mysore Govt. Museum,
Bangalore.

To

C. S. Balasundram Esqr.
Offg. Secretary to the Govt. of H. H.
the Maharaja of Mysore and
Chief Secretary to Govt.

Dated 24th November 11

Despatched 2nd December 11

Received

General No. 72 } 1911-12
No.

Enclosure No.

Acknowledging the receipt of a Copy
of the Specification of an invention for
"Improvements in and relating to Zeolites
or Hydrated Alumino Silicates" by
W. E. Evans. London.

GPB—300—15 7 10

No. 11111

MYSORE P. W. DEPARTMENT,
CENTRAL OFFICE.

Bangalore 1st December.....1911 .

From

~~M. VISVESWARAYA, Esq.~~

The *Chief Engineer of Mysore,*
Bangalore.

DIARY No. 2369

To

The Secretary to Government,
General and Revenue Departments.

1911 -1912
SECTION Gen: Mis
FILE No. 283 of 1910-11
ITEM No. 22

Sir,

I have the honour to return the copy of the specification in respect of an invention for "Improvements in and relating to Zoolites' or Hydrated alumina Silicates", forwarded with your No. G.2948-50/G.M. 283-10-18 dated the 18th November 1911 and to suggest that the same may kindly be transmitted to the Chemical Examiner and Bacteriologist to Government for record in his office as it may be of use to him.

I have the honour to be,
Sir,
Your most obedient servant,

Deputy Chief Engineer,
Mysore P.W.Department.

S.S.

V GVK
4/12

191

MYSORE P. W. DEPARTMENT.

No. 11111

From

THE CHIEF ENGINEER OF MYSORE,
Bangalore.

To The Secretary to the Government of Mysore, General and Revenue Departments.

Dated Bangalore, 1st December 1911

Despatched

Enclosure No. 1

SUBJECT.

Returning specification suggesting that the same may be forwarded to the Chemical Examiner as it may be of use to him.

G.R.S. 29A]

19 .

From

The Offg Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Chemical Examiner
to the Govt of Mysore,
Bangalore

Dated

Despatched 18. 12. 1911

Received

General No. C 3458

No. fm283-10-23

Enclosure No. 1

Has the honor to forward herewith for use and record in his Office a copy of the Specification in respect of an invention for "Improvements in and relating to Zeolites or Hydrated Alumino Silicates" by William Edward Evans of Consulting Engineer of 27, Chancery Lane, London, W.C. and to request the favor of an acknowledgment

By Order,

14/12/11.

for Offg Secretary

VS. 41

GPB—20,000—24-10-10.

V ev
18/12

1911

From Dr. M. Srinivasadas
Supt. P.H. Institute & Cheml. Examr.
to the Govt. of Mysore
Bangalore

To The Secretary to Government
Genl. & Rev. Dept. Bangalore

Dated 18th Dec. 1911.
Despatched
Received

DIARY No. 2545
1911-1912
SECTION Gen: mis
FILE No. 2830/1910-11
SERIAL No. 24

General No. 775
No. 775
Enclosure No.

Sir

With reference to your docket, without No. or date, I have the honour to acknowledge the receipt of a Copy of the Specification regarding an invention for "Improvements in and relating to Zeolites or Hydrated Alumino Silicates"

I have the honour to be
Sir,
Your most obedient Servant
M. Srinivasadas M.D.
Supt. P.H. Institute & Cheml. Examr. to Government

GPB—1,50,000—20-7-11

17. To the Treasury officer Bangalore. No. G. 2947 dt 18-11-11
Forwards Rs. 30/- received with sl. 14.

18. To the Supdt Govt Museum, Chief Engineer & State Geologist.
Forwards for record in his office a Copy of the specn noted with sl. 14.

19. From the State Geologist. No. 972 dt 22-11-11
Acknowledges receipt of the specn sent with the above

20. From the District Treasury officer, Bangalore No. 85 dt 21-11-11
Acknowledges receipt of Rs. 30/- sent with sl. 17.

21. From the Supdt Govt Museum No. 728 dt 24-11-11
Acknowledges receipt of the specn sent with sl. 18.

22 From - Chief Engineer - no IIIII dt 1-12-11
Returns the specn sent with sl. 18 and suggests that it may be forwarded to the Chemical Examiner, as it may be of use to him.

23. To the Chemical Examiner. No. G. 3458 dt 18-12-11
Forwards a Copy of the specn & requests acknt

24. From ~~do~~ no 775 dt 18-12-11
Acknowledges receipt of the specn forwarded with the above.